

**SEMICONDUCTOR WAFER MANUFACTURING METHODS  
EMPLOYING CLEANING DELAY PERIOD**

**ABSTRACT**

**[0050]** A method of manufacturing a semiconductor wafer including cleaning a surface of the wafer during a first time period and forming a layer over the surface during a second time period. The first time period includes a cleaning delay period prior to a cleaning portion of the first time period, the cleaning delay period configured such that an end time of the first time period substantially coincides with a start time of the second time period.